

THE SIPRO PRE - PLE SET III 2024
MATHEMATICS

Index No.

EMIS No.

Time Allowed: 2 Hours 30 Minutes

Candidate's Name:

EMIS No:

District ID:

Personal No.

**READ THE FOLLOWING INSTRUCTIONS
CAREFULLY:**

1. This paper has two sections: A and B.
 2. Section A has 20 questions (40 Marks).
 3. Section B has 12 questions (60 Marks).
 4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
 5. All answers must be written in blue or black ball point pens or *ink*. Only diagrams and graph work must be done in *pencil*.
 6. Unnecessary *alteration* of work will lead to loss of marks.
 7. Any *handwriting* that cannot be easily read may lead to loss of marks.
 8. Do not fill anything in the boxes indicated:
- "FOR EXAMINER'S USE ONLY"**

For Examiner's Use Only:

Qn No.	MARKS	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
Total		

Please turn over



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SECTION A: 40 MARKS

Attempt all questions in this section.

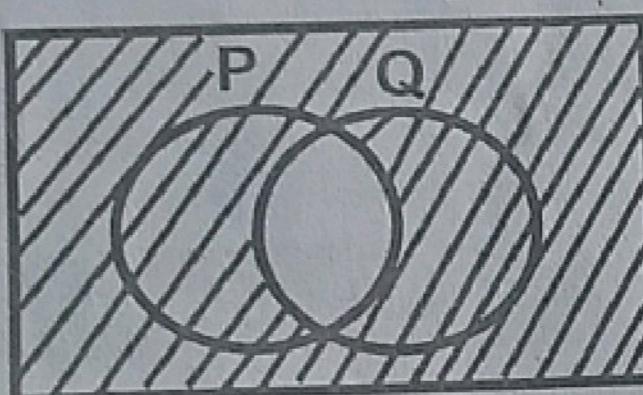
Questions 1 to 20 carry two marks each.

1. Complete the statement below;

$$4 + 4 + 4 = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$

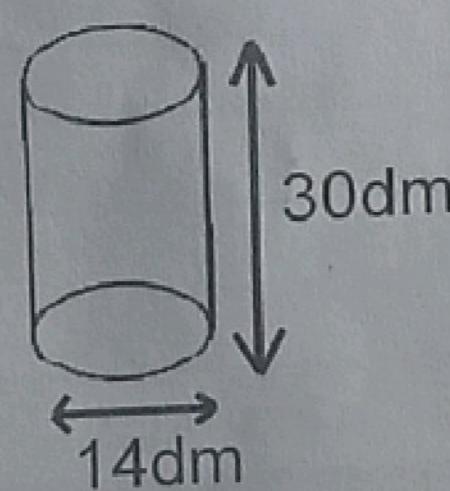
2. Simplify: $8q - 3y - 5q + 7y$

3. Describe the shaded region on the Venn diagram below.



4. Find the number whose standard form is 5.702×10^5 .

5. Find the volume of the cylinder below. (use $\pi = \frac{22}{7}$)



6. Divide; 3612 by 6.

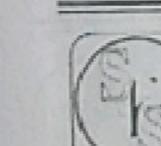
7. Tap Q takes 3 minutes to fill the tank; tap P takes 4 minutes to draw the same tank. After how long will both taps take to fill the tank if open together at the same time?

8. Using a ruler, a pencil and a pair of compasses only, construct an angle of 105° .

9. Solve the equation: $3p + 4 = 16$.

10. Express $\underline{5}$ as a recurring decimal.

11



11. Find the mean of 16 , x , $2x + 3$ and $x + 1$.

12. At a forex bureau, one USA dollar costs Ug. sh. **3,650**. A tourist has Ug. sh. **1,825,000**. Find how many dollars she will get.

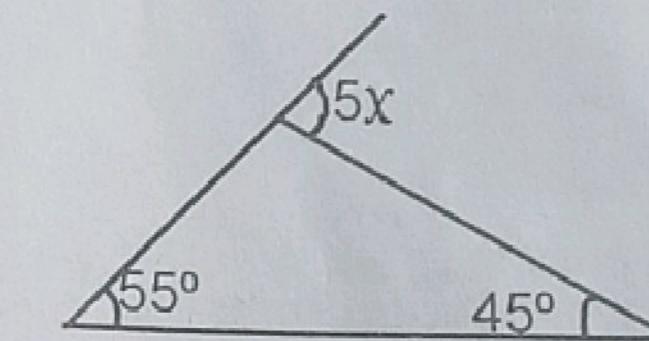
13. A bus arrived at 2:40pm; If the journey took $2\frac{1}{2}$ hours, at what time did it depart?

14. Change 1101_{two} to base ten.

15. Calculate the square root of 1.44 .

16. Set M has **64** subsets. Find $n(M)$.

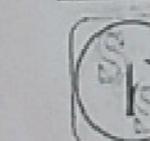
17. Find the value of x in the diagram.



18. Simplify; $x^5 \times x^3 \div x^4$

19. How many jumps of **4cm** can a frog make to cover a distance of **2 metres**?

20. Use power notation to expand **396.7**.



SECTION B: 60 MARKS

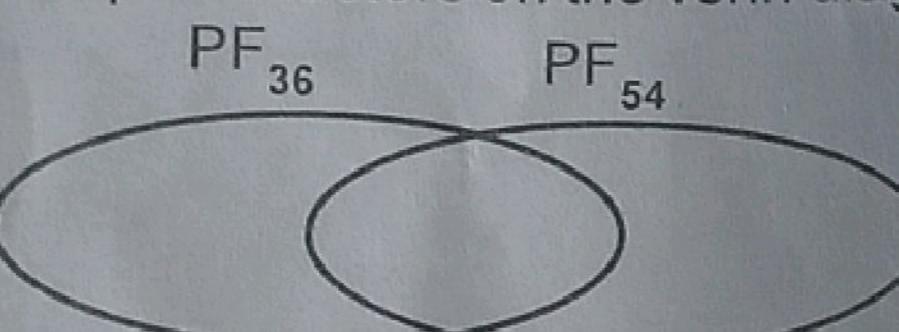
Attempt all questions in this section.

Marks for each part of the question are indicated in the brackets.

- 21.(a) Prime factorise 36 and 54 and represent the prime factors in a set notation.

(02 marks)

- (b) Represent the prime factors on the venn diagram below. (03 marks)



22. A mother went shopping and bought the following items;

1 $\frac{1}{2}$ kg of meat at sh. 14,000 per kilogramme.

2

500ml of milk at sh. 2,000 every litre.

4 bars of soap at sh; 32,000

12 tomatoes at sh; 1,000 for every 3 tomatoes.

If she paid sh; 52,200; work out the percentage discount she got.

(05 marks)

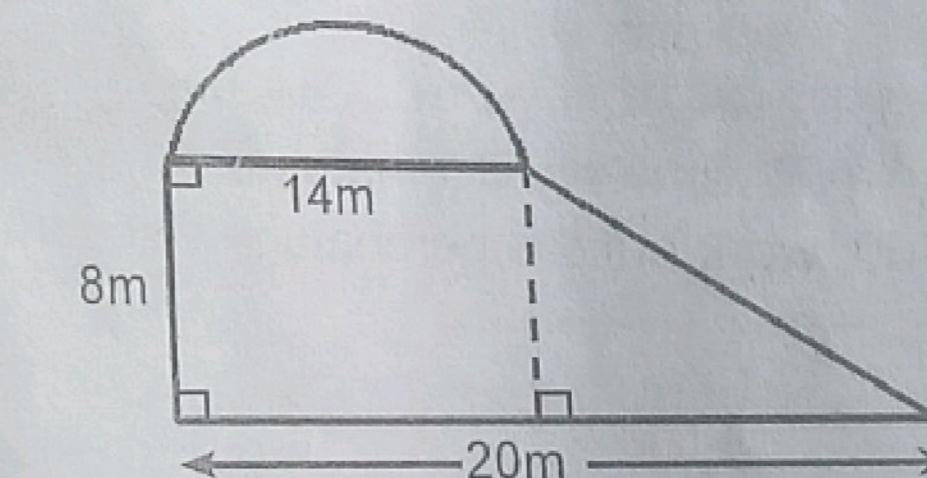
23. (a) With the help of a ruler, a pencil and a pair of compasses only, construct a parallelogram ABCD such that angle ABC is 120°, line AB is 8cm, and line AC is 5cm.

(04 marks)

- (b) Measure diagonal AC _____ cm.

(01 mark)

24. Study and use the figure below to answer the questions that follow.



- (a) Find the area of the figure above.

(03 marks)

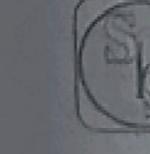


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5



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6

(b) Work out the distance round the figure above.

(03 marks)

25. (a) Solve the inequality: $3(1 - x) < 12$

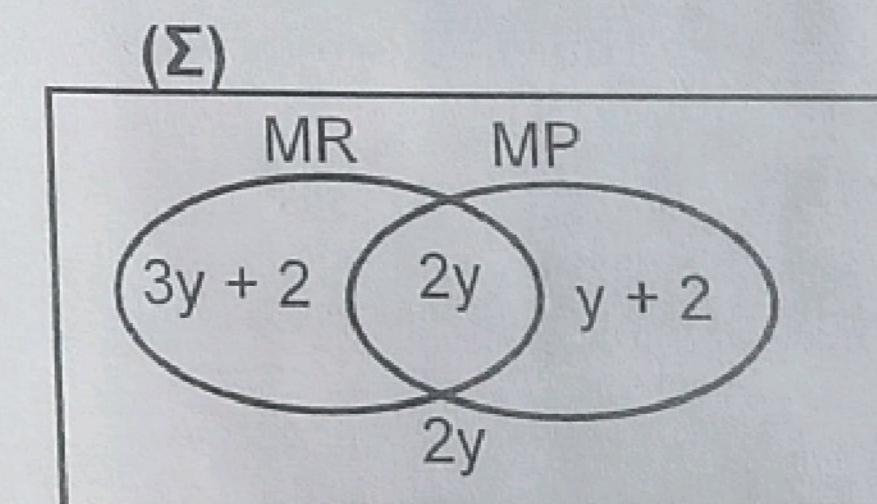
(03 marks)

(b) Odongo is 16 years old while Apio is 34 years old. After how many years, will Apio be twice the age of Odongo? (02 marks)

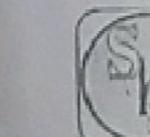
26. Suubi deposited money in the bank which offers a simple interest of 10% per year. After a period of 2 years, his account had an amount of sh. 864,000. Find the amount Suubi deposited in the bank.

(04 marks)

27. The Venn diagram below shows pupils who eat two kinds of food, Matoke and Rice (MR), Matoke and Posho (MP), three kinds of food and Matoke only. Study and use it to answer the questions that follow.

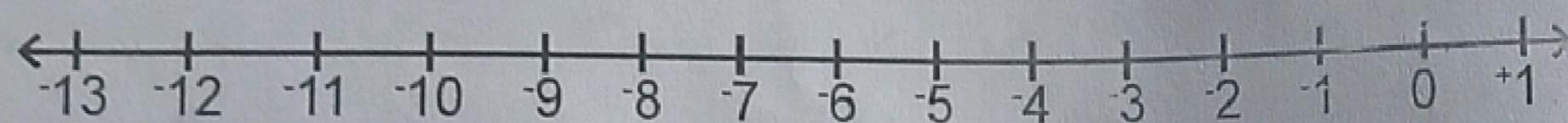


(a) If 32 pupils eat two kinds of food only, find the number of pupils who ate the three kinds of food. (03 marks)



(b) Work out the number of pupils in the class. (02 marks)

28. (a) Use the number line to work out $3x - 4$. (03 marks)



(b) If today is Friday, which day of the week was it 25 days ago? (02 marks)

29. (a) Write 69,732 in words. (02 marks)

(b) Calculate the quotient of the value of 9 and of the value of 3 in the above number. (03 marks)

30. The frequency table below shows marks scored and the number of pupils who wrote the examination. Study and use it to answer the questions that follow.

Marks scored	55	60	70	93
Number of pupils	4	3	2	2

(a) Find the number of pupils who sat the examination. (01 mark)

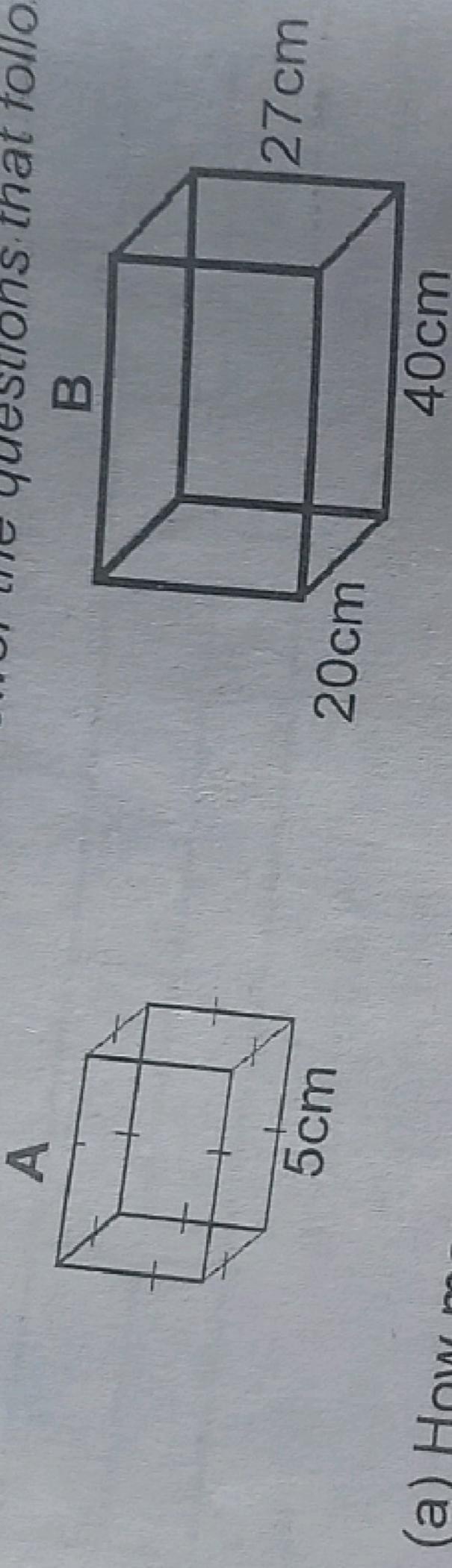
(b) How many pupils scored above the average mark? (03 marks)

31. (a) Convert 10m/sec to km/h. (02 marks)

(b) A bus left Kampala at 8:00a.m. and arrived at Gulu at 9:45a.m. If it was travelling at a speed of 80km/h, find the distance it covered. (03 marks)



32. The cubes of type A are packed into a box of type B. Study the figures and use them to answer the questions that follow.



- (a) How many cubes of type A will be packed along the bottom layer? (02 marks)
- (b) How many cubes of type A will be packed in a big box B? (02 marks)

(02 marks)

- (c) Find the volume of the space left unoccupied after packing. (02 marks)

